



TORQ Analysis of Bindery Workers to Printing Machine Operators




INPUT SECTION:

Transfer	Title	O*NET	Filters		
From Title:	Bindery Workers	51-5011.00	Abilities:	Importance Level: 50	Weight: 1
To Title:	Printing Machine Operators	51-5023.00	Skills:	Importance Level: 69	Weight: 1
Labor Market Area:	Maine Statewide		Knowledge:	Importance Level: 69	Weight: 1

OUTPUT SECTION:

Grand TORQ:

87



















Ability TORQ		Skills TORQ		Knowledge TORQ	
Level	 85	Level	 87	Level	 90

Gaps To Narrow if Possible				Upgrade These Skills				Knowledge to Add			
Ability	Level	Gap	Impt	Skill	Level	Gap	Impt	Knowledge	Level	Gap	Impt
Visual Color Discrimination	45	24	58	Operation Monitoring	64	12	75	No Knowledge Upgrades Required!			
Visualization	38	7	50	Troubleshooting	55	7	73				
Near Vision	45	3	61	Equipment Maintenance	63	7	71				
				Operation and Control	66	4	77				
				Reading Comprehension	51	4	70				

LEVEL and IMPT (IMPORTANCE) refer to the Target Printing Machine Operators. GAP refers to level difference between Bindery Workers and Printing Machine Operators.

ASK ANALYSIS

Ability Level Comparison - Abilities with importance scores over 50

Description	Bindery Workers	Printing Machine Operators	Importance
Near Vision	42 	45 	61 
Visual Color Discrimination	21 	45 	58 
Control Precision	52 	41 	57 
Manual Dexterity	44 	37 	55 
Information Ordering	41 	38 	51 
Visualization	31 	38 	50 

Skill Level Comparison - Abilities with importance scores over 69



Description	Bindery Workers	Printing Machine Operators	Importance
Operation and Control	62	66	77
Operation Monitoring	52	64	75
Troubleshooting	48	55	73
Equipment Maintenance	56	63	71
Reading Comprehension	47	51	70
Knowledge Level Comparison - Knowledge with importance scores over 69			
Description	Bindery Workers	Printing Machine Operators	Importance

Experience & Education Comparison						
Related Work Experience Comparison				Required Education Level Comparison		
Description	Bindery Workers		Printing Machine Operators	Description	Bindery Workers	Printing Machine Operators
10+ years	0%		0%	Doctoral	0%	0%
8-10 years	0%		3%	Professional Degree	0%	0%
6-8 years	0%		0%	Post-Masters Cert	0%	0%
4-6 years	2%		7%	Master's Degree	0%	0%
2-4 years	7%		24%	Post-Bachelor Cert	0%	0%
1-2 years	24%		13%	Bachelors	0%	0%
6-12 months	16%		3%	AA or Equiv	0%	0%
3-6 months	0%		6%	Some College	0%	5%
1-3 months	0%		0%	Post-Secondary Certificate	0%	8%
0-1 month	3%		0%	High School Diploma or GED	56%	85%
None	44%		39%	No HSD or GED	42%	1%
Bindery Workers				Printing Machine Operators		
Most Common Educational/Training Requirement:						
Short-term on-the-job training				Moderate-term on-the-job training		
Job Zone Comparison						
2 - Job Zone Two: Some Preparation Needed Some previous work-related skill, knowledge, or experience may be helpful in these occupations, but usually is not needed. For example, a teller might benefit from experience working directly with the public, but an inexperienced person could still learn to be a teller with little difficulty.				2 - Job Zone Two: Some Preparation Needed Some previous work-related skill, knowledge, or experience may be helpful in these occupations, but usually is not needed. For example, a teller might benefit from experience working directly with the public, but an inexperienced person could still learn to be a teller with little difficulty.		
These occupations usually require a high school diploma and may require some vocational training or job-related course work. In some cases, an associate's or bachelor's degree could be needed.				These occupations usually require a high school diploma and may require some vocational training or job-related course work. In some cases, an associate's or bachelor's degree could be needed.		
Employees in these occupations need anywhere from a few months to one year of working with experienced employees.				Employees in these occupations need anywhere from a few months to one year of working with experienced employees.		

Tasks



Bindery Workers

Core Tasks

Generalized Work Activities:

- Getting Information - Observing, receiving, and otherwise obtaining information from all relevant sources.
- Handling and Moving Objects - Using hands and arms in handling, installing, positioning, and moving materials, and manipulating things.
- Controlling Machines and Processes - Using either control mechanisms or direct physical activity to operate machines or processes (not including computers or vehicles).
- Performing General Physical Activities - Performing physical activities that require considerable use of your arms and legs and moving your whole body, such as climbing, lifting, balancing, walking, stooping, and handling of materials.
- Communicating with Supervisors, Peers, or Subordinates - Providing information to supervisors, co-workers, and subordinates by telephone, in written form, e-mail, or in person.

Specific Tasks

Occupation Specific Tasks:

- Clean work areas, and maintain equipment and work stations, using hand tools.
- Crease or compress signatures before affixing covers; then place paper jackets on finished books.
- Examine stitched, collated, bound, and unbound product samples for defects such as imperfect bindings, ink spots, torn or loose pages, and loose and uncut threads.
- Feed books and related articles such as periodicals and pamphlets into binding machines, following specifications.
- Fill glue reservoirs, turn switches to activate heating elements, and adjust flow of glue and speed of conveyors.
- Fill machine paper feeds.
- Install and adjust bindery machine devices, such as knives, guides, rollers, rounding forms, creasing rams, and clamps, in order to accommodate sheets, signatures, or books of specified sizes, using hand tools.
- Lubricate and clean machine parts, and make minor repairs in order to keep machines in working condition.
- Maintain records of daily production, using specified forms.
- Mount and secure rolls or reels of wire, cloth, paper, or other material onto machine spindles.

Printing Machine Operators

Core Tasks

Generalized Work Activities:

- Controlling Machines and Processes - Using either control mechanisms or direct physical activity to operate machines or processes (not including computers or vehicles).
- Getting Information - Observing, receiving, and otherwise obtaining information from all relevant sources.
- Handling and Moving Objects - Using hands and arms in handling, installing, positioning, and moving materials, and manipulating things.
- Inspecting Equipment, Structures, or Material - Inspecting equipment, structures, or materials to identify the cause of errors or other problems or defects.
- Performing General Physical Activities - Performing physical activities that require considerable use of your arms and legs and moving your whole body, such as climbing, lifting, balancing, walking, stooping, and handling of materials.

Specific Tasks

Occupation Specific Tasks:

- Apply glue or tape to holes in screens in order to repair leaks.
- Attach cloth to take-up rollers, placing it in feeding position and threading it through equipment as necessary.
- Blend and test paint, inks, stains, and solvents according to types of material being printed and work order specifications.
- Clean and lubricate printing machines and components, using oil, solvents, brushes, rags, and hoses.
- Coordinate printing activities with activities of workers who set up, clean, and feed machines.
- Correct misprinted materials, using materials such as ink eradicators or solvents.
- Direct and monitor activities of workers feeding, inspecting, and tending printing machines and materials.
- Examine job orders to determine details such as quantities to be printed, production times, stock specifications, colors, and color sequences.
- Input instructions in order to program automated machinery, using a computer keyboard.
- Inspect and examine printed products for print clarity, color accuracy, conformance to specifications, and external defects.



machine spindles.

- Move controls to adjust and activate bindery machines.
- Observe and monitor machine operations to detect malfunctions and to determine whether adjustments are needed.
- Open machines and remove and replace damaged covers and books, using hand tools.
- Punch holes in paper sheets, and fasten sheets, signatures, or other material, using hand or machine punches or staplers.
- Read work orders to determine setup specifications and instructions.
- Record production sheet information such as the amount of time spent on specific tasks.
- Remove broken wire pieces from machines, and load machines with new spools of wire.
- Remove printed material or finished products from machines or conveyors, wrap products in plastic, and stack them on pallets or skids or pack them in boxes.
- Secure reels of stitching wire on spindles, and thread wire through feeding, cutting, stitch forming, and driving mechanisms to load stitcher heads for stapling.
- Set machine controls to adjust lengths and thicknesses of folds, stitches, or cuts, to synchronize speed of feeding devices and stitching, and to adjust tension on creasing blades and folding rollers.
- Set up, or set up and operate, machines that perform binding operations such as pressing, folding, and trimming on books and related articles.
- Start machines and make trial runs to verify accuracy of machine setups.
- Stitch or glue endpapers, bindings, and signatures to attach them.
- Stock supplies such as signatures, books, or paper.
- Stop machines, cut threads that connect books, and stack separated books.
- Thread spirals in perforated holes of items to be bound, using spindles or rollers.
- Train workers to set up, operate, and use automatic bindery machines.

Detailed Tasks

Detailed Work Activities:

- adjust production equipment/machinery setup
- apply adhesives, caulking, sealants, or coatings
- clean equipment or machinery
- clean rooms or work areas
- collate printed materials
- demonstrate or explain assembly or use

- Load, position, and adjust unprinted materials on holding fixtures or in equipment loading and feeding mechanisms.
- Maintain records of goods produced, supplies used, production costs, and machine maintenance and repair activities.
- Measure screens, and use measurements to center and align screens in proper positions and sequences on machines, using gauges and hand tools.
- Monitor and control operation of auxiliary equipment used to assemble and finish products.
- Monitor feeding, printing, and racking processes of presses in order to maintain specified operating levels and to detect malfunctions; make any necessary adjustments.
- Monitor stocks of materials such as paper, ink, and metal in order to maintain supplies during equipment operation.
- Operate equipment at slow speed to ensure proper ink coverage, alignment, and registration.
- Pack and label cartons, boxes, or bins of finished products.
- Place printed items in ovens to dry or set ink.
- Place spools of thread or wire on holders, and thread through machines.
- Position knives at specified distances from edges of plastic material in order to trim excess material from edges.
- Pour ink into pans, and smooth paint onto stencils, using flat-bladed knives.
- Pour or spread paint, ink, color compounds, and other materials into reservoirs, troughs, hoppers, or color holders of printing units, making measurements and adjustments to control color and viscosity.
- Prepare and treat lithographic plates with various chemicals to clean and preserve plates and fix images.
- Provide assistance in the design and layout of forms and materials to be printed.
- Push buttons, turn handles or move controls and levers to start and control printing machines.
- Remove printed materials from presses, using handtrucks, electric lifts, or hoists, and transport them to drying, storage or finishing areas.
- Repair, maintain, or adjust equipment.
- Reposition printing plates, adjust pressure rolls, or otherwise adjust machines to improve print quality, using knobs, handwheels, or hand tools.
- Requisition supplies, materials, and equipment, and receive stock when it arrives.
- Select and install printing plates, rollers,



of equipment

- examine products or work to verify conformance to specifications
- fabricate, assemble, or disassemble manufactured products by hand
- install equipment or attachments on machinery or related structures
- load or unload material or workpiece into machinery
- load, unload, or stack containers, materials, or products
- maintain consistent production quality
- maintain or repair industrial or related equipment/machinery
- maintain production or work records
- monitor production machinery/equipment operation to detect problems
- move or fit heavy objects
- operate collating machine
- operate printing equipment/machinery
- package goods for shipment or storage
- perform safety inspections in manufacturing or industrial setting
- read work order, instructions, formulas, or processing charts
- set up production equipment or machinery
- use hand or power tools
- wrap products

feed guides, gauges, screens, stencils, type, dies, and cylinders in machines according to specifications, using hand tools.

- Set and adjust speed, temperature, ink flow, and positions and pressure tolerances of equipment.
- Squeeze or spread ink on plates, pads, or rollers, using putty knives, brushes, or sponges.
- Thin printing compounds, using specified thinners.

Detailed Tasks

Detailed Work Activities:

- adjust production equipment/machinery setup
- assure quality control in printing processes
- attach or mark identification onto products or containers
- clean equipment or machinery
- collect payment
- demonstrate or explain assembly or use of equipment
- determine film exposure settings
- determine specifications
- develop film or other photographic medium
- direct and coordinate activities of workers or staff
- distinguish colors
- examine products or work to verify conformance to specifications
- fabricate printing plates
- identify color or balance
- install equipment or attachments on machinery or related structures
- load or unload material or workpiece into machinery
- load, unload, or stack containers, materials, or products
- maintain consistent production quality
- maintain or repair industrial or related equipment/machinery
- maintain production or work records
- measure, weigh, or count products or materials
- mix paint, ingredients, or chemicals, according to specifications
- mix printing solutions
- monitor production machinery/equipment operation to detect problems
- move or fit heavy objects
- operate bindery equipment
- operate cameras
- operate fabric printing equipment
- operate graphic reproduction equipment



- operate hoist, winch, or hydraulic boom
- operate printing equipment/machinery
- operate scanner
- perform safety inspections in manufacturing or industrial setting
- process photographic prints
- read production layouts
- read specifications
- read work order, instructions, formulas, or processing charts
- receive customer orders
- restore photographs
- retouch negatives or prints
- set page layout or composition
- set up production equipment or machinery
- strip negatives
- understand technical operating, service or repair manuals
- use color analyzer
- use densitometer
- use desktop publishing software
- use hand or power tools
- use precision measuring tools or equipment

Tools - Examples

- Adjustable wrenches
- Materials conveyors
- Conductivity indicators
- Densitometers
- Desktop computers
- Flexo presses
- Grease guns
- Claw hammers
- Hand trucks
- Packing gauges
- Hoists
- Pallet jacks
- Letter presses
- Electric lifts
- Vise grip pliers
- Hand-held magnifiers
- Micrometers



- Offset printing equipment
- Paper drills
- Paper joggers
- Perforators
- Personal computers
- pH indicators
- Digital copiers
- Gravure presses
- Platemaking equipment
- Folding equipment
- Collating equipment
- Cutting equipment
- Multicolor presses
- Putty knives
- Ratchets
- Phillips head screwdrivers
- Screen printing presses
- Stackers
- Stapling machines
- Measuring tapes
- Strappers

Labor Market Comparison

Description	Bindery Workers	Printing Machine Operators	Difference
Median Wage	\$ 26,130	\$ 29,710	\$ 3,580
10th Percentile Wage	\$ 17,110	\$ 21,270	\$ 4,160
25th Percentile Wage	N/A	N/A	N/A
75th Percentile Wage	\$ 31,490	\$ 36,080	\$ 4,590
90th Percentile Wage	\$ 36,420	\$ 44,010	\$ 7,590
Mean Wage	\$ 26,320	\$ 30,870	\$ 4,550
Total Employment - 2007	350	790	440
Employment Base - 2006	366	820	454



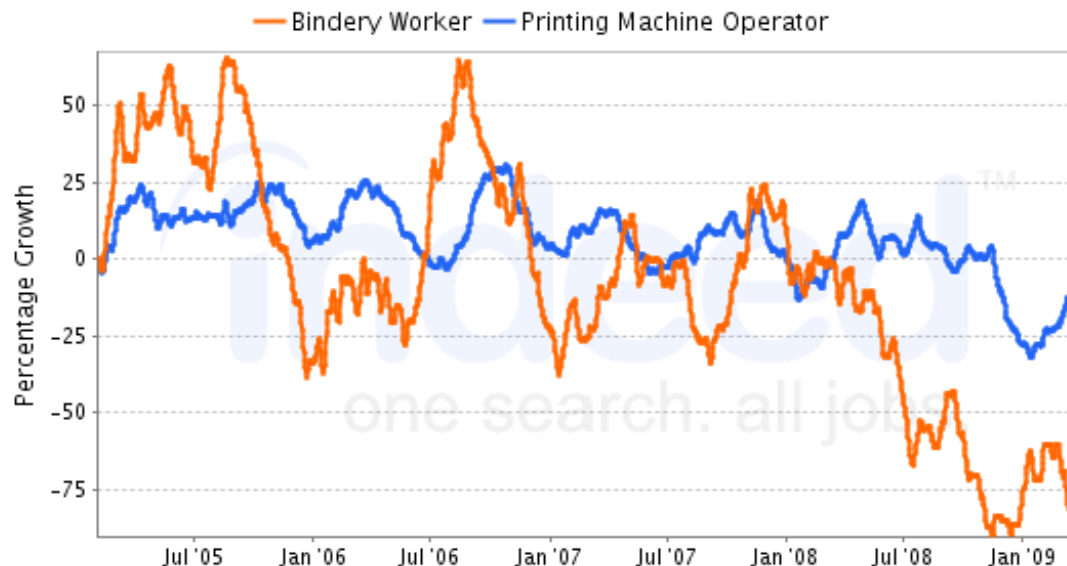
Projected Employment - 2016	293	798	505
Projected Job Growth - 2006-2016	-19.9 %	-2.7 %	17.3 %
Projected Annual Openings - 2006-2016	5	18	13

National Job Posting Trends

Trend for Bindery Workers

Trend for
Printing Machine
Operators

Job Trends from Indeed.com

Data from [Indeed](#)

Recommended Programs

Printing Management

Printing Management. A program that prepares individuals to apply technical and managerial knowledge and skills to the processes and procedures of managing printing operations from initial design through finished product distribution. Includes instruction in the principles of graphic communications design and production; quality control; printing operations management; computerization; printing plant management; business finance and marketing; logistics and distribution; personnel supervision and leadership; and professional standards in the graphic communications industry.

No schools available for the program

Graphic and Printing Equipment Operator, General Production

Graphic and Printing Equipment Operator, General Production. A program that generally prepares individuals to apply technical knowledge and skills to plan, prepare, and execute a variety of commercial and industrial graphic communications jobs. Includes instruction in the operation and maintenance of mechanical, electronic, and digital graphic, printing, and finishing equipment; and related processes.

Institution	Address	City	URL
Central Maine Community College	1250 Turner St	Auburn	www.cmcc.edu
Central Maine Community College	1250 Turner St	Auburn	www.cmcc.edu

Printing Press Operator



Printing Press Operator. A program that prepares individuals to apply technical knowledge and skills to set up, operate, and maintain printing presses.

No schools available for the program

Graphic Communications, Other

Graphic Communications, Other. Any instructional program in graphic communications not listed above.

No schools available for the program

Maine Statewide Promotion Opportunities for Bindery Workers

O*NET Code	Title	Grand TORQ	Job Zone	Employment	Median Wage	Difference	Growth	Annual Job Openings
51-5011.00	Bindery Workers	100	2	350	\$26,130.00	\$0.00	-20%	5
51-4122.00	Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders	88	2	120	\$36,960.00	\$10,830.00	2%	3
51-4031.00	Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic	88	2	450	\$27,500.00	\$1,370.00	-14%	11
51-5023.00	Printing Machine Operators	87	2	790	\$29,710.00	\$3,580.00	-3%	18
51-4193.00	Plating and Coating Machine Setters, Operators, and Tenders, Metal and Plastic	87	2	120	\$32,160.00	\$6,030.00	16%	5
45-4022.00	Logging Equipment Operators	81	1	1,390	\$29,280.00	\$3,150.00	4%	46
51-9032.00	Cutting and Slicing Machine Setters, Operators, and Tenders	81	2	710	\$31,350.00	\$5,220.00	-23%	12
51-9191.00	Cementing and Gluing Machine Operators and Tenders	81	1	80	\$27,620.00	\$1,490.00	-15%	2
51-9196.00	Paper Goods Machine Setters, Operators, and Tenders	81	2	910	\$38,230.00	\$12,100.00	-26%	23
51-9041.00	Extruding, Forming, Pressing, and Compacting Machine Setters, Operators, and Tenders	80	2	260	\$28,330.00	\$2,200.00	-7%	5



51-2031.00	Engine and Other Machine Assemblers	79	3	20	\$29,010.00	\$2,880.00	-45%	1
51-4034.00	Lathe and Turning Machine Tool Setters, Operators, and Tenders, Metal and Plastic	79	3	110	\$34,350.00	\$8,220.00	-9%	2
51-9195.07	Molding and Casting Workers	79	2	0	\$26,980.00	\$850.00	7%	20
51-4121.06	Welders, Cutters, and Welder Fitters	79	2	1,610	\$38,030.00	\$11,900.00	7%	49
51-9051.00	Furnace, Kiln, Oven, Drier, and Kettle Operators and Tenders	79	2	300	\$32,980.00	\$6,850.00	-18%	9

Top Industries for Printing Machine Operators

Industry	NAICS	% in Industry	Employment	Projected Employment	% Change
Printing and related support activities	323100	50.92%	100,610	90,254	-10.29%
Newspaper publishers	511110	7.59%	14,990	12,841	-14.33%
Converted paper product manufacturing	322200	6.58%	12,998	10,908	-16.08%
Advertising and related services	541800	3.23%	6,387	7,207	12.83%
Plastics product manufacturing	326100	2.76%	5,460	5,788	6.00%
Specialized design services	541400	1.92%	3,793	5,076	33.81%
Textile and fabric finishing and fabric coating mills	313300	1.66%	3,277	2,021	-38.33%
Self-employed workers, primary job	000601	1.45%	2,864	3,052	6.54%
Employment services	561300	1.41%	2,783	3,522	26.56%
Colleges, universities, and professional schools, public and private	611300	0.89%	1,761	1,970	11.87%
Animal slaughtering and processing	311600	0.86%	1,706	1,947	14.13%
Paper and paper product merchant wholesalers	424100	0.80%	1,585	1,693	6.83%
Self-employed workers, secondary job	000602	0.74%	1,465	1,459	-0.45%
Cut and sew apparel manufacturing	315200	0.64%	1,266	534	-57.77%
Clothing stores	448100	0.61%	1,203	1,263	4.97%

Top Industries for Bindery Workers

Industry	NAICS	% in Industry	Employment	Projected Employment	% Change
Printing and related support activities	323100	75.67%	49,078	34,998	-28.69%



Employment services	561300	4.66%	3,020	3,822	26.56%
Converted paper product manufacturing	322200	2.30%	1,489	1,125	-24.47%
Advertising and related services	541800	1.69%	1,095	1,112	1.55%
Newspaper publishers	511110	1.53%	993	765	-22.90%
Self-employed workers, primary job	000601	1.32%	853	818	-4.12%
Specialized design services	541400	0.81%	528	636	20.43%
Colleges, universities, and professional schools, public and private	611300	0.42%	271	273	0.69%
Federal government, excluding postal service	919999	0.36%	234	199	-14.92%
Paper and paper product merchant wholesalers	424100	0.33%	214	206	-3.85%
Other support services	561900	0.29%	189	233	23.30%
Management of companies and enterprises	551100	0.17%	109	113	3.75%
State government, excluding education and hospitals	929200	0.15%	100	88	-11.68%
Elementary and secondary schools, public and private	611100	0.11%	71	68	-5.16%
Industrial machinery manufacturing	333200	0.11%	70	52	-26.26%